United States Department of Agriculture
Forest Service
Challis National Forest
Yankee Fork R.D.
H/C 67, Box 650
Clayton, ID 83227

Reply to: 2810

Date: July 24, 1989

Pat Fitch, General Manager
Cyprus Thompson Creek
P.O. Box 62
Clayton, Idaho 83227

Dear Pat,

Enclosed is a signed copy of the "Suspension of Operations Plan". To our knowledge this plan is the first of it's kind. Cyprus is to be commended for it's support and commitment to establish a working plan of the nature.

Please notify your environmental staff and anybody else involved with this plan of our appreciation.

Sincerely,

C. Gregory Johnson

C. GREGORY JOHNSON
District Ranger

Enclosure

cc:
S.O.

We, the undersigned, are in mutual agreement that the attached Temporary Suspension of Operations Work Plan will be included as an addendum in the Cyprus Thompson Creek Operating Plan on file with the Idaho Department of Lands, Idaho Department of Health & Welfare, Idaho Department of Water Resources, U.S. Forest Service and Bureau of Land Management.

Pat Fitch
VP & General Manager
Cyprus Thompson Creek

Jerry Conley
Director
Idaho Department of Game and Fish

Jack Griswold
Forest Supervisor
Challis National Forest, USFS

Roy Jackson
District Manager
Bureau of Land Management

Rich Donovan
Director
Division of Health & Welfare

for Stan Hamilton
Director
Department of Lands

R. Keith Higginson
Director
Department of Water Resources

TEMPORARY SUSPENSION OF OPERATIONS WORK PLAN

1.0 INTRODUCTION

In the act of mining, extraction of minerals from their natural environment for processing and use, the economic recovery of the mineral is tantamount to the survival of the mining company. In the event that poor economic conditions, reduced molybdenum demands or unattainable environmental controls prohibit economic recovery, mining and milling could be temporarily suspended at the Cyprus Thompson Creek (CTC) property for an undefined period during the mine life. To provide assurance to the state and federal agencies that Cyprus Minerals Company will not abandon accepted mining and land use practices during a temporary suspension of operations and to restate our commitment to the environment, this work plan is submitted as part of the operating permit on file with the United States Forest Service.

Cyprus Minerals Company is committed by good corporate faith and by law to manage CTC in an environmentally safe and sound manner. Insofar as possible, CTC will control releases of pollutants into the environment that could affect uses of off-site natural resources.

CTC will retain an adequate work force to perform the required environmental monitoring as well as control access to the site, perform normal maintenance tasks required while operations are suspended and continue with routine inspections and operations of equipment in environmentally sensitive areas as prescribed and intended by the operating plan and the Environmental Impact Statement (EIS). The following sections outline the activities that CTC will perform in the event that temporary suspension of operations occurs.

2.0 SURFACE AND GROUND WATER

CTC is located in an environmentally sensitive area of Central Idaho, just upstream from a special resource river. To protect this resource, CTC will maintain a surface and ground water sampling program during any suspension of operations. These data will provide an indication of any changes in the present water quality in the area during a suspension. Surface and ground water stations to be monitored are outlined in Table 1, parameters to be monitored can be seen in Table 2, and sampling schedule in Table 3. Monitoring schedules provided in Table 3 are intended to be used as a guideline only. The sample schedule should be tied to stream flow or to the hydrograph of the system. Timing of the sampling will include a spring runoff period if the suspension of operations occurs over the melt period. Monitoring schedules will be reevaluated annually and may be adjusted as appropriate during an extended suspension of operations.

2.1 Surface Water

Background water quality data has been gathered since 1980. The objective of the water sampling program during a suspension will be to detect, as well as prevent, any deterioration of water quality to Squaw and Thompson Creeks. The quality and the quantity of effluent from the sediment ponds on Pat Hughes, Buckskin and Bruno Creeks will be monitored in accordance with respective National Pollution Discharge Elimination System (NPDES) permit requirements. Water quality in the tailings basin during year one and two of a suspension of operations will be monitored as defined in Tables 1-3.

During subsequent inactive periods, the potential for a major pollutant release into surface waters of the area is greatly reduced, due to non-deposition of tailings, along with non-delivery of milling chemicals and petroleum products, thus reducing the incidence of spills. The surface water monitoring plan will be reduced accordingly (Table 4).

2.2 Ground Water

Ground water quality will continue to be monitored to insure that seepage or infiltration from existing waste dumps or the tailings impoundment do not contaminate any usable local ground water aquifers. The monitoring schedule is defined in Table 5. After year two of a suspension of operations the monitoring schedule will be reduced to the schedule defined in Table 6. Potable wells developed for employee consumption will be monitored as required by the State of Idaho, Department of Health and Welfare.

2.3 Fish and Macroinvertebrate Survey

To protect the fishery that exists in both Thompson and Squaw Creeks, CTC will continue to monitor instream parameters for effects of a suspension of operations. Cyprus will conduct a semi-annual (July and October) macroinvertebrate study and an annual (October) fish survey during year one of a shutdown. Thereafter, Cyprus will conduct a fall survey of each. Biological monitoring may be further reduced in scope and frequency in an extended suspension.

3.0 TAILINGS

One of the most critical areas during a shutdown is the tailings disposal system. CTC will continue to monitor its tailings, tracking the water balance, monitoring ground and surface water quality and monitoring embankment stability. Weekly visual inspection of the area, including active pump stations, will be performed where needed, or as required by permitting agency.

The possibility exists that a waste water discharge will be required for the tailings system if a temporary suspension lasts longer than one year. An application for a discharge permit is currently

in-process to give CTC the flexibility it needs to run the mine in a safe and economic manner. Water treatment system design and construction will be ongoing after issuance of the permit. A final water treatment system will be placed in operation if the need to discharge occurs, possibly within 12 months of the shutdown.

3.1 Water Balance

At the time of shut down, runoff diversion ditches that were constructed around the tailings pond will minimize water in-flow into the tailings pond system. A permanent diversion ditch on the right abutment is located at the 7600 foot elevation as part of the Runoff Interceptor System (RIS). A ditch is also located on the left abutment of the tailings dam at the 7400 foot elevation to provide additional diversion capacity. If the pond level rises above the 7400 level prior to suspension, a new diversion ditch at a higher elevation will be constructed. Flow rates will be monitored in both diversion facilities using flow measuring devices. Visual inspections and maintenance of ditches will be ongoing. The weather station and snow survey will be maintained to aid in runoff predictions. Pump records and inspections will continue as part of the normal inspection process for the Seepage Return Dam (SRD) and Pumpback System (PBS). Pond elevation will be surveyed monthly for settlement. Total flow through the embankment (right abutment, left abutment and main drain) will be recorded by existing flow measuring devices.

3.2 Stability

The foundation piezometric instruments will be read monthly during year one of a suspension, thereafter, readings will be taken quarterly or as recommended by the Dam Safety Division of the Idaho Department of Water Resources. In the unlikely event that any piezometers fall into the critical area for stability, they will be read on a weekly basis. Observation wells or standpipes located within the embankment will be sounded monthly for water level to define the phreatic surface for two years. If the phreatic surface remains constant during this time period, standpipes will be read quarterly in year-three and beyond unless the phreatic surface changes significantly. Settlement sensors located beneath the starter embankment will be read for settlement on a quarterly basis. Additional standpipes or piezometers could be added to the system if required.

If the need should arise, the embankment will be stabilized either physically or chemically, to reduce erosion by wind and/or water.

3.3 Surface and Ground Water

See Sections 2.1 and 2.2

5.0 WASTE DUMPS

Waste dumps are located in the Pat Hughes and Buckskin drainages. The Pat Hughes Dump is primarily composed of competent and durable non-volcanic rock. The Buckskin Dump is primarily composed of volcanic overburden which is subject to weathering and subsequently to erosion. These dumps are designed to be free draining cross valley fills. Due to the rock composition of the Buckskin Dumps, underdrains were installed prior to dump construction in the drainage. Piezometers are located in the drainages beneath the dump areas to measure pore water pressures to monitor dump stability.

Long term stability and erosion control of the volcanic Buckskin dumps will be enhanced by a non-volcanic armor on the downstream dump faces. During a temporary shutdown period, erosion will be controlled by sediment ponds, maintaining drainage, using berms, grading and dump sloping as defined by Surface Drainage plan on file with United States Forest Service. This will alleviate sediment migration from dump surfaces and slopes into the downstream drainages.

Weekly visual inspections will ensure that erosion or mass failure has not occurred. When access permits, internal waste dump pore pressures will be taken on a monthly basis by reading waste dump piezometers.

6.0 RECLAMATION

Reclamation will consist of contouring and seeding of surface areas disturbed by construction or mining which will not be redisturbed in the future upon resumption of operations. Prospective reclamation areas include road cuts on access roads, unused laydown yards, abandoned roads and completed waste dumps. Incomplete waste dumps will not be reclaimed unless temporary shutdown is deemed permanent. An annual reclamation schedule will be defined in the annual reclamation report given to Idaho State Department of Lands.

Reclamation procedures will be site specific to achieve optimum stabilization. Planting will occur in the spring and fall. Where access permits, seed bed preparation will include ripping the ground surface to provide sufficient depth for plant rooting and recontouring of areas for proper drainage. All reclaimed areas will be visually monitored and maintenance will be provided (reseeding, noxious weed control or fertilization) to those areas where needed. Monitoring will continue on reclamation test plots located in the Pat Hughes drainage and tailings area.

7.0 INTERAGENCY TASK FORCE

The Interagency Task Force (IATF) will be maintained and shall designate an official contact person or agency in the event of a suspension of operations. This designated IATF contact person will be responsible to coordinate IATF concerns to and from CTC. CTC will

4.0 SEDIMENT PONDS

During runoff, erosion significantly increases the amount of sediment carried into major stream drainages. Sediment ponds have been constructed in drainages that contain large areas of mining disturbance to reduce the amount of stream sediment carried by runoff. Sediment ponds are located in the Pat Hughes, Buckskin and Bruno Creek drainages and will continue to operate as designed for sediment removal.

4.1 NPDES Discharge Permit Requirements

Discharge effluent quality and quantity will be monitored as required by current NPDES permits for each of the impoundments.

4.2 Stability

Piezometers, for the purpose of measuring pore pressure, are located within the embankments of the Pat Hughes and Buckskin sediment dams. The piezometers will be read quarterly and information provided to the Department of Water Resources. Standpipes are also located within the sediment dam to measure the water table within the embankment. The standpipes will also be read quarterly and information provided to the Department of Water Resources. A yearly settlement survey will be taken along the crest of the Bruno Creek, Pat Hughes and Buckskin sediment dams to monitor dam settlement.

4.3 Operation and Maintenance

The majority of flow through the sediment ponds occurs during snow melt, typically May and June. The rest of the year, flow rates are less than 1.0 cfs. Sediment tranpsport through streams occurs primarily during spring runoff. Prior to runoff, sediment ponds will be at their lowest level possible to maximize retention time upon filling during peak runoff. The sediment ponds will allow time for settlement of suspended solids before discharge into downstream creeks. During low flow, the impoundments will be allowed to drain to the level of the lower outlet. The reservoir will be left in this state until spring runoff resumes. The general approach to the method of operation will be to relate suspended solids levels to pond capacity, i.e. the higher the suspended solids, the larger the pond retention time. Routine maintenance will consist of greasing the valving system for the outlet works, maintenance on log booms, cleaning trash racks, and inspecting sediment deposit buildup in the ponds. When sediment buildup adversely affects the efficient settlement of solids, ponds will be emptied and sediment removed. To remove sediment, Cyprus will ask the EPA region 10 for permission to bypass all inflow around the impoundments. When sediment solidifies to the extent that it can be dozed into piles, the sediment will be removed and stockpiled for future reclamation treatment.

have an onsite contact person responsible for environmental concern and to conduct periodic agency tours. For periods of extended suspension, the IATF will be requested to review or approve modifications to this Suspension of Operations Work Plan.

8.0 SUMMARY

During a temporary suspension of operations at its Thompson Creek Mine, Cyprus Minerals Company is committed to continue its program of environmental protection. This temporary suspension of operations plan shall be valid for up to thirty-six months unless shortened or extended upon mutual agreement between CTC and the IATF; Cyprus management, along with the agencies, will revise the plan as needed to protect the environment.

The main access road will be maintained year-round. During winter months, this will include snow removal, opening of berm windows and making sure all drainage ditches and culverts are cleaned before the spring thaw. In summer months, routine road maintenance will occur, keeping the road windows open.

Cyprus Thompson Creek will maintain the reporting procedures currently required by operating permits or by the U.S. Forest Service, U.S. Bureau of Land Management, Idaho Department of Water Resources, Idaho Department of Lands, U.S. EPA, Idaho Department of Health and Welfare.

TABLE 1
MONITORING STATIONS

Surface Water	
SQ-2	Squaw Creek below confluence with Bruno Creek.
SQ-2.5	Squaw Creek below stormwater discharge point.
SQ-3	Squaw Creek above confluence with Bruno Creek.
SQ-4	Bruno Creek at USGS gauging station.
TC-1	Thompson Creek below confluence with Pat Hughes above Barrett Mill.
TC-2	Thompson Creek above confluence with Pat Hughes below Unnamed Creek.
TC-3	Thompson Creek above confluence with Unnamed Creek below Buckskin.
TC-4	Thompson Creek above confluence with Buckskin Creek below Alder Creek.
001	Buckskin Creek sediment dam discharge point.
002	Pat Hughes Creek sediment dam discharge point.
003	Beaver Pond sediment dam discharge point on Bruno Creek.
TP	Tailings Pond
PBS	Pump Back System, inlet to sump
DS-1	First spring below PBS on Bruno Creek (east bank)

Station	Location
SP-1	Sediment pond on Bruno Creek at 6640 ft. elevation.
RB-1	Redbird Creek

Ground Water	
MW-1	Monitoring well located approximately 100 feet below SRD.
BC-3	Former production well on lower Bruno Creek.
RA-2	Monitoring well located on right abutment of tailings impoundment.
LA-2	Monitoring well located on left abutment of tailings impoundment.
LA-3	Monitoring well located on left abutment of tailings impoundment.
BW-1	Monitoring well located on Buckskin Creek.
CON-1	Concentrator well which supplies potable water for administration building, analytical lab and concentrator.
CRU-1	Crusher well which supplies potable water for all facilities at crusher site.

TABLE 2
SURFACE WATER MONITORING

Classification By Groups

Group 1 - Field Parameters

Conductivity	pH
Temperature	Turbidity

Group 2 - Indicators

Suspended solids	Iron
Alkalinity	Manganese
Chloride	Molybdenum
Sulfate	

Group 3 - Metals

Copper	Zinc
Lead	Selenium
Mercury	

Group 4 - Secondary Parameters

Total Dissolved Solids	Aluminum
Hardness	Arsenic
Calcium	Barium
Fluoride	Cadmium
Magnesium	Chromium
Potassium	Cobalt
Silica	Nickel
Sodium	Silver
Sulfite	COD
Phosphate	Cyanide
Nitrate	

Group 5 - Special Parameters

5a Weekly (NPDES)

Suspended Solids	pH
Continuous flow	Turbidity

5b Monthly (NPDES)

Cadmium	Copper	Mercury
Zinc	Arsenic	Lead

5c Monthly (NPDES)
Turbidity

5d Weekly - During spring runoff
Turbidity

Group 6 - Potable Water Parameters

6a - Monthly
Bacteria - Total Coliform

Group 6, cont...

6b - Annual

Arsenic	Silver
Barium	Fluoride
Copper	Chloride
Cadmium	Iron
Chromium	Manganese
Cyanide	Sulfate
Lead	TDS
Mercury	Zinc
Nitrate	Sodium
Selenium	

Group 7 - Static Water Level

TABLE 3

MONTHLY SURFACE WATER MONITORING SCHEDULE

YEAR ONE & TWO

Station	Jan.	Feb.	Mar.	Apr.	May	June	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
TP		1,2,3,4			1,2,3,4					1,2,3,4		
MD	1	1,2,3,4	1	1	1,2,3,4	1	1	1	1	1,2,3,4	1	1
PBS		1,2			1,2,3,4			1,2		1,2,3,4		
DS-1		1,2			1,2			1,2		1,2,3,4		
SP-1		1,2			1,2			1,2		1,2,3,4		
SQ-4		1,2			1,2			1,2		1,2,3,4		
SQ-3	5c	1,2	5d	5d	1,2	5d	5c	1,2	5c	1,2,3,4	5c	5c
SQ-2		1,2			1,2			1,2		1,2,3,4		
SQ-2.5	5c	5c	5d	5d	5d	5d	5c	5c	5c	5c	5c	5c
RB-1	1			1			1			1,2,3,4		
TC-1	5c	5c	5c	5c	5c	5c	5c	5c	5c	1,2,3,4	5c	5c
TC-2	5c	5c	5c	5c	5c	5c	5c	5c	5c	1,2,3	5c	5c
TC-3	5c	5c	5c	5c	5c	5c	5c	5c	5c	1,2,3	5c	5c
TC-4	5b,c	5b,c	5b,c	5b,c	5b,c	5b,c	5b,c	5b,c	5b,c	1,2,3,4	5b,c	5b,c
001	5a,b	5a,b	5a,b	5a,b	5a,b	5a,b	5a,b	5a,b	5a,b	5a,b	5a,b	5a,b
002	5a,b	5a,b	5a,b	5a,b	5a,b	5a,b	5a,b	5a,b	5a,b	5a,b	5a,b	5a,b
003	1	1	1	1	1	1	1	1	1	1,2,3,4	1	1

NOTE: For Key See Table 2

TABLE 4

MONTHLY SURFACE WATER MONITORING SCHEDULE

YEAR THREE & BEYOND

Station	Jan.	Feb.	Mar.	Apr.	May	June	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
TP		1,2,3,4				1,2,3,4				1,2,3,4		
PBS		1,2,3,4				1,2,3,4				1,2,3,4		
DS-1		1,2,3,4				1,2,3,4				1,2,3,4		
SP-1										1,2,3,4		
SQ-4										1,2,3,4		
SQ-3	5c	5c	5d	5d	5d	5d	5c	5c	5c	1,2,3,4	5c	5c
SQ-2										1,2,3,4		
SQ-2.5	5c	5c	5d	5d	5d	5d	5c	5c	5c	5c	5c	5c
RB-1										1,2,3,4		
TC-1	5c	5c	5c	5c	5c	5c	5c	5c	5c	1,2,3,4	5c	5c
TC-2	5c	5c	5c	5c	5c	5c	5c	5c	5c	1,2,3,4	5c	5c
TC-3	5c	5c	5c	5c	5c	5c	5c	5c	5c	1,2,3,4	5c	5c
TC-4	5b,c	5b,c	5b,c	5b,c	5b,c	5b,c	5b,c	5b,c	5b,c	1,2,3,4	5b,c	5b,c
001	5a,b	5a,b	5a,b	5a,b	5a,b	5a,b	5a,b	5a,b	5a,b	5a,b	5a,b	5a,b
002	5a,b	5a,b	5a,b	5a,b	5a,b	5a,b	5a,b	5a,b	5a,b	5a,b	5a,b	5a,b
003	1	1	1	1	1	1	1	1	1	1,2,3,4	1	1

TABLE 5

MONTHLY GROUND WATER MONITORING SCHEDULE

YEAR ONE & TWO

Station	Jan.	Feb.	Mar.	Apr.	May	June	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
MW1	1,2,3,4			1,2,3,4			1,2,3,4			1,2,3,4		
BC-3	1,2			1,2,3			1,2,3,			1,2,3,4		
RA-2*				7			1,2,3,4			1,2,3,4		
LA-2*				7			1,2,3,4			1,2,3,4		
LA-3*				7			7			7		
BW-1										1,2,3,4		
Con-1	6a,b			6a			6a			6a		
CRU-1	6a,b			6a			6a			6a		

* Except under hazardous conditions

TABLE 6

MONTHLY GROUND WATER MONITORING SCHEDULE

YEAR THREE & BEYOND

Station	Jan.	Feb.	Mar.	Apr.	May	June	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.
MW-1	1,2			1,2			1,2			1,2,3,4		
BC-3	1,2			1,2,7			1,2			1,2,3,4		
RA-2*							1,2,7			1,2,3,4		
LA-2*							1,2,7			1,2,3,4		
LA-3*												
BW-1										1,2,3,4		
Con-1	6a,b			6a			6a			6a		
CRU-1	6a,b			6a			6a			6a		

* Except under hazardous conditions